

Method for obtaining a high pressure acid gas stream by removal of the acid gases from a liquid stream

Abstract

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A method for obtaining an acid gas stream having a pressure of from 3 to 30 bar by removal of the acid gases from a liquid stream comprising as impurities H_2S and if appropriate other acid gases, the molar fraction of H_2S , based on the total amount of acid gases, being at least 50 mol%, which comprises

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a) in at least one absorption step, bringing the fluid stream into intimate contact with a liquid absorption medium and thus producing a fluid stream substantially freed from acid gases and an acid-gas-loaded liquid absorption medium (step a),

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b) separating from one another the fluid stream substantially freed from acid gases and the acid-gas-loaded liquid absorption medium (step b),

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c) separating, by heating and if appropriate expansion or stripping, the acid-gas-loaded liquid absorption medium into an acid gas stream having a pressure of from 3 to 30 bar and a regenerated liquid absorption medium (step c)

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d) passing the regenerated liquid absorption medium into a heat exchanger and cooling it there, by using a part of its thermal energy to heat up the acid-gas-loaded liquid absorption medium in step (c) (step d)

e) recirculating the regenerated liquid absorption medium to step a) (step e).